UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,115	02/16/2001	Richard John Knight	CQ10056	3441

			EXAMINER
23493	7590	07/15/2004	TON, ANTHONY T

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ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/763,115	KNIGHT ET AL.
	Examiner	**Art Unit**	
	Anthony T Ton	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 February 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 February 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some *   c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☒ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *3*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Drawings

1.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: In **Fig.4** fails to show a reference for the **connection 68** which is provided between the receive and transmit interfaces as described in **page 15 line 3** in the specification.

Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2.   The disclosure is objected to because of the following informalities:

Term "**memory 26**" in lines 12 and 18 of page 10 is improper. Accordingly, it would be buffer memory 24 coupled to the receive interface 20 as shown in Fig.2.

Examiner suggests changing this term to "**memory 24**"

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   **Claims 1-6, 10-17, 19 and 20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) **Claims 1 and 10** recite the limitation **"the adjacent switching nodes"** in **line 9**. There is insufficient antecedent basis for this limitation in this claim.

b) **Claims 1 and 10** recite the limitation **"via the respective switching node"** in **line 11**. It is not clear; does this refer to "via **said adjacent** switching node"? There is insufficient antecedent basis for this limitation in this claim.

c) **Claim 6** recites the limitation **"the sub-threshold"** in **line 3**. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   **Claims 1-5, 10-14 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Soumiya et al.** (US Patent No. **5,696,764**) hereinafter referred to as Soumiya.

a) **In Regarding to Claim 1: Soumiya disclosed** a communications network for transferring data in accordance with a transfer priority number, the network having a number of switching nodes which transfer data transmitted between end stations coupled to the network *(see Fig.20)*, each switching node comprising:

a store for storing data prior to transfer *(see Fig.1b: Buffer 111)*;

a monitor for monitoring the volume of data being transferred through the switching node *(see Fig.1b: block 121)*;

a comparator for comparing the volume of data to a first predetermined threshold *(see Fig.11: comparator 121b and 121a; and col.23 lines 53-60)*; and

a signal generator for generating a congestion signal if the respective volume of traffic exceeds the first predetermined threshold *(see Fig.11: block 131 and col.23 line 66 – col.24 line 10: explicit forward congestion indicator "EFCI" in an ATM cell (a congestion signal))*.

Soumiya failed to explicitly disclose wherein adjacent switching nodes and/or end stations are responsive to the congestion signal to temporarily store at least some of the data to be transferred via said adjacent switching node, the data for storage being selected in accordance with the priority number.

However, Soumiya inherently disclosed such adjacent switching nodes and/or end stations are responsive to the congestion signal to temporarily store at least some of the data to be transferred via said adjacent switching node, the data for storage being selected in accordance with the priority number *because Fig.20 (Prior Art) in Soumiya disclosed an ATM network; in which there are a plurality of adjacent switching nodes (3c-1 to 3c-n) and/or end stations (1a and 1b) that are responsive to the congestion signal to temporarily store at least some of the*

data to be transferred via said adjacent switching node, the data for storage being selected in

accordance with the priority number as shown in Fig.9.

Therefore, at the time of the invention, it would be obvious to a person of ordinary skill

in the art to combine such adjacent switching nodes and/or end stations are responsive to the

congestion signal to temporarily store at least some of the data to be transferred via said adjacent

switching node, the data for storage being selected in accordance with the priority number

teaching in the instant claim with Soumiya, so that a switching node in a communications

network can be controlled properly. The motivation for doing so would have been to prevent

congestion and provide an order during a transmission of data throughout a switching network

orderly. Therefore, it would have been obvious to combine the instant claim and Soumiya the

invention as specified in the claim.

b) **In Regarding to Claim 2: Soumiya further disclosed** wherein the signal generator is

adapted to generate an end-of-congestion signal when the respective volume of traffic falls

below a second predetermined threshold *(see col.24 lines 5-7),* the adjacent switching nodes

being responsive to the end-of-congestion signal to transfer the temporarily stored data, the data

being accessed from the store in accordance with the priority number *(see Figs.20 and 9).*

c) **In Regarding to Claim 3: Soumiya further disclosed** wherein the second

predetermined threshold corresponds to a lower volume of traffic than the first predetermined

threshold *(see col.23 lines 60-65; and col.24 lines 15-20: Xon > Xoff).*

d) **In Regarding to Claim 4: Soumiya disclosed** all aspects of this claim as set forth in

claims 1-2; and **Soumiya inherently disclosed** wherein the second predetermined threshold

equals the first predetermined threshold *(see col.23 lines 53-65: wherein No1 >=1 and No2*

$>=1$; *therefore No1 (1st Threshold) = No2 (2nd Threshold); also see Fig.28: wherein sometimes*

Queue Length of SCJ (2nd Threshold) = Queue Length of LCJ (1st Threshold)).

e) **In Regarding to Claim 5: Soumiya further disclosed** wherein the monitor monitors

the amount of data stored in the store *(see col.12 lines 52-61).*

f) **In Regarding to Claims 10-13:** these claims are rejected for the same reasons as

Claims 1-4, respectively because the apparatus in Claims 1-4 can be used to practice the method

steps of Claims 10-13.

g) **In Regarding to Claim 14: Soumiya further disclosed** wherein each switching node

includes a store for temporarily storing data *(see Fig.1(a): any one of buffers 11),* and wherein

the step of monitoring the volume of data being transferred through the switching node

comprises monitoring the amount of data stored in the store *(see col.12 lines 52-61).*

h) **In Regarding to Claim 19: Soumiya further disclosed** wherein each switching node

includes a store for temporarily storing data *(see Fig.1(a): any one of buffers 11),* and wherein

the step of monitoring the volume of data being transferred through the switching node

comprises monitoring the amount of data stored in the store *(see col.12 lines 52-61).*

7.   **Claims 6, 15-17 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Soumiya et al. (US Patent No. **5,696,764**) in view of **Caldara et al.** (WO No. **97/03459**)

(provided by IDS #3) hereinafter referred to as Caldara.

a) **In Regarding to Claim 6: Soumiya disclosed** all aspects of this claim as set forth in claim 1.

Soumiya failed to explicitly disclose wherein the first predetermined threshold comprises a number of predetermined sub-thresholds, the congestion signal including an indication of the sub-threshold which has been exceeded, and wherein the data to be temporarily stored is selected based on the sub-threshold exceeded and the priority number.

Caldara disclosed such wherein the first predetermined threshold comprises a number of predetermined sub-thresholds, the congestion signal including an indication of the sub-threshold which has been exceeded, and wherein the data to be temporarily stored is selected based on the sub-threshold exceeded and the priority number *(see the last sentence in abstract; Fig.13B: Threshold(3), Threshold(2) and Threshold(1); and Fig.14: 112).*

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such wherein the first predetermined threshold comprises a number of predetermined sub-thresholds, the congestion signal including an indication of the sub-threshold which has been exceeded, and wherein the data to be temporarily stored is selected based on the sub-threshold exceeded and the priority number, as taught by Caldara with Soumiya, so that the input buffer of a switching node can be monitored and observed consecutively in a very short period of time in order to compare with corresponding predetermined thresholds. The motivation for doing so would have been to prevent congestion and provide efficiency for data transmission at a switching node in communications networks. Therefore, it would have been obvious to combine Caldara and Soumiya the invention as specified in the claim.

b) **In Regarding to Claim 16** and **Claim 17: Soumiya disclosed** all aspects of these

claims as set forth in claims 1-2 and claims 1-2,4, respectively.

Soumiya failed to explicitly disclose wherein the first predetermined threshold

comprises a number of predetermined sub-thresholds, the congestion signal including an

indication of the sub-threshold which has been exceeded, and wherein the data to be temporarily

stored is selected based on the sub-threshold exceeded and the priority number *(see details and*

the motivation as described in the claim 6 above).

c) **In Regarding to Claims 15** and **20:** these claims are rejected for the same reasons as

Claims 1 and 16, respectively because the apparatus in Claims 1 and 16 can be used to practice

the method steps of Claims 15 and 20.

8.   **Claims 7-9 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Soumiya et al. (US Patent No. **5,696,764**) in view of **Ginossar** (US Patent No. **6,477,143**).

a) **In Regarding to Claim 7: Soumiya disclosed** a station for coupling to a

communications network which transfers data in accordance with a transfer priority number, the

communications network being adapted to monitor the volume of data being transferred there

through and to generate a congestion signal if the respective volume of traffic exceeds a first

predetermined threshold *(see Figs.15, 17 and 18)*, the station comprising:

a store for storing data *(see Fig.10: 81)*;

an interface for coupling the station to the communications network *(see Fig.15: it is*

inherently that there is an interface that is used to couple the end station 302 to the frame

network 304); and

a processor responsive to the congestion signal to cause the station to temporarily store at least some of the data to be transferred to the communications network *(see Fig.10: 82 and 83),* the data for storage being selected in accordance with the priority number *(see Fig.14).*

Soumiya failed to explicitly disclose wherein such a station is and an end station. However, it would be obviously that Soumiya's station can be implemented to either end node 10 or end node 15 as shown in Fig.1 of Ginossar.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such an end station, as taught by Ginossar with Soumiya, so that data packets can be transmitted and received at each end station without congestion. The motivation for doing so would have been to provide efficiency for data transmission from/to the end nodes in packet network of Ginossar. Therefore, it would have been obvious to combine Ginossar and Soumiya the invention as specified in the claim.

b) **In Regarding to Claim 8: Soumiya further disclosed** wherein the communications network is adapted to generate an end-of-congestion signal when the respective volume of traffic falls below a second predetermined threshold *(see col.24 lines 5-7),* wherein the processor is responsive to the end-of-congestion signal to transfer the temporarily stored data, the data being accessed from the store in accordance with the priority number *(see Figs.20 and 9).*

c) **In Regarding to Claims 9** and **18: Soumiya further disclosed** wherein the processor generates the data to be transferred *(see col.12 lines 52-61).*
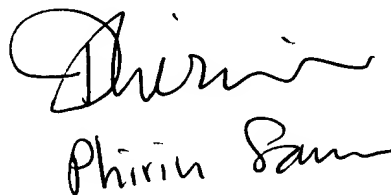
Examiner Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T Ton whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ATT
7/06/04

Phirin Sam